

(f) On board electronic stability computers may be used as an adjunct to the required booklet, but the required booklet must contain all necessary information to allow for the evaluation of the stability of any intact condition that can be evaluated by use of the computer.

[CGD 79-023, 48 FR 51010, Nov. 4, 1983, as amended by CGD 83-071, 52 FR 6979, Mar. 6, 1987; CGD 88-070, 53 FR 34537, Sept. 7, 1988; CGD 76-080, 54 FR 36977, Sept. 6, 1989; CGD 89-037, 57 FR 41825, Sept. 11, 1992; CGD 95-028, 62 FR 51217, Sept. 30, 1997; USCG-2007-0030, 75 FR 78084, Dec. 14, 2010]

#### § 170.120 Stability letter.

(a) Except as provided in paragraph (b) of this section, each vessel must have a stability letter issued by the Coast Guard before the vessel is placed into service. This letter sets forth conditions of operation.

(b) A stability letter is not required if the information can be placed on the Certificate of Inspection or the Load Line Certificate.

[CGD 79-023, 48 FR 51010, Nov. 4, 1983, as amended by CGD 95-028, 62 FR 51217, Sept. 30, 1997; USCG-2007-0030, 75 FR 78084, Dec. 14, 2010]

#### § 170.125 Operating information for a vessel engaged in lifting.

In addition to the information required in § 170.110, the following information must be included in the stability booklet of a vessel that is required to comply with § 173.005 of this subchapter:

(a) *Non-counterballasted vessel.* If a vessel is not counterballasted, stability information setting forth hook load limits corresponding to boom radii based on the intact stability criterion in § 173.020 must be provided.

(b) *Counterballasted vessel.* If a vessel is counterballasted with water, the following information must be provided:

(1) Instructions on the effect of the free surface of the counterballast water.

(2) Instructions on the amounts of counterballast needed to compensate for hook load heeling moments.

(3) If a vessel has fixed counterballast, a table of draft versus maximum vertical moment of deck cargo and hook load combined.

(4) If a vessel has variable counterballast, a table of draft versus maximum vertical moment of deck cargo and hook load combined for each counterballasted condition.

#### § 170.135 [Reserved]

#### § 170.140 Operating information for a vessel constructed on or after January 1, 2009 and issued a SOLAS safety certificate.

(a) This section applies to each vessel that is—

(1) Constructed on or after January 1, 2009; and

(2) Issued either a SOLAS Passenger Ship Safety Certificate or a SOLAS Cargo Ship Safety Construction Certificate.

(b) In addition to the information required in § 170.110 of this part, the stability booklet of each vessel to which this section applies must contain the information required by applicable regulations of IMO Res. MSC.216(82) (incorporated by reference, see § 170.015).

(c) As used in SOLAS chapter II-1, *Administration* means the Commandant, U.S. Coast Guard.

[USCG-2007-0030, 75 FR 78084, Dec. 14, 2010]

### Subpart E—Intact Stability Criteria

#### § 170.160 Specific applicability.

(a) Except as provided in paragraphs (b) through (d) of this section, this subpart applies to each vessel.

(b) This subpart does not apply to any of the following vessels unless the stability of the vessel is questioned by the OCMI:

(1) A deck cargo barge that complies with the requirements in § 174.020 of this chapter.

(2) A tank vessel that only carries a product listed in § 30.25-1 of this chapter and that is—

(i) Less than 150 gross tons; or

(ii) A tank barge that operates only in river or lakes, bays, and sounds service.

(3) A sailing school vessel that is an open boat that complies with the requirements in § 173.063(e) of this subchapter.

(c) This subpart does not apply to the following vessels:

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(1) A tank barge that carries a product listed in Table 151.05 of this chapter.

(2) A mobile offshore drilling unit.

(3) A vessel that performs one of the simplified stability proof tests described in subpart C of part 178 of this chapter.

(d) A vessel that complies with § 170.165 of this part need not comply with §§ 170.170 and 170.173 of this part.

[CGD 79-023, 48 FR 51010, Nov. 4, 1983, as amended by CGD 83-005, 51 FR 923, Jan. 9, 1986; CGD 85-080, 61 FR 944, Jan. 10, 1996; USCG-2007-29018, 72 FR 53968, Sept. 21, 2007; USCG-2009-0702, 74 FR 49239, Sept. 25, 2009; USCG-2007-0030, 75 FR 78084, Dec. 14, 2010]

### § 170.165 International Code on Intact Stability.

(a) Each vessel issued one or more of the certificates listed in paragraphs (a)(1) through (4) of this section, must comply with the Introduction and Part A of the International Code on Intact Stability, 2008 (2008 IS Code), unless permitted otherwise (incorporated by reference, see § 170.015).

(1) International Load Line Certificate.

(2) SOLAS Passenger Ship Safety Certificate.

(3) SOLAS Cargo Ship Safety Construction Certificate.

(4) High-speed Craft Safety Certificate.

(b) A vessel not subject to the requirements of paragraph (a) of this section is permitted to comply with the applicable criteria contained in the 2008 IS Code as an alternative to the requirements of §§ 170.170 and 170.173 of this part.

[USCG-2007-0030, 75 FR 78084, Dec. 14, 2010]

### § 170.170 Weather criteria.

(a) Each vessel must be shown by design calculations to have a metacentric height (GM) that is equal to or greater than the following in each condition of loading and operation:

$$GM \geq \frac{PAH}{W \tan(T)}$$

Where—

P=.005+(L/14,200)<sup>2</sup> tons/ft<sup>2</sup> . . . for ocean service, Great Lakes winter service, or service on exposed waters.

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P=.055+(L/1309)<sup>2</sup> metric tons/m<sup>2</sup> . . . for ocean service, Great Lakes winter service, or service on exposed waters.

P=.0033+(L/14,200)<sup>2</sup> tons/ft<sup>2</sup> . . . for Great Lakes summer service or service on partially protected waters.

P=.036+(L/1309)<sup>2</sup> metric tons/m<sup>2</sup> . . . for Great Lakes summer service or service on partially protected waters.

P=.0025+(L/14,200)<sup>2</sup> tons/ft<sup>2</sup> . . . for service on protected waters.

P=.028+(L/1309)<sup>2</sup> metric tons/m<sup>2</sup> . . . for service on protected waters.

L=LBP in feet (meters).

A=projected lateral area in square feet (square meters) of the portion of the vessel and deck cargo above the waterline.

H=the vertical distance in feet (meters) from the center of A to the center of the underwater lateral area or approximately to the one-half draft point.

W=displacement in long (metric) tons.

T=either:

(1) the lesser of either 14 degrees heel or the angle of heel in degrees at which one-half the freeboard to the deck edge is immersed; or

(2) for a sailing vessel, T = the lesser of either 14 degrees or the angle of heel in degrees to the deck edge.

The deck edge is to be taken as the intersection of the sideshell and the uppermost continuous deck below which the sideshell is weathertight.

(b) If approved by the Coast Guard Marine Safety Center or the ABS, a larger value of T may be used for a vessel with a discontinuous weather deck or abnormal sheer.

(c) When doing the calculations required by paragraph (a) of this section for a sailing vessel or auxiliary sailing vessel, the vessel must be assumed—

(1) To be under bare poles; or

(2) If the vessel has no auxiliary propulsion, to have storm sails set and trimmed flat.

(d) The criterion specified in this section is generally limited in application to the conditions of loading and operation of flush deck, mechanically powered vessels of ordinary proportions and form for which the righting arm (GZ) at the angle (T), calculated after the vessel is permitted to trim free until the trimming moment is zero, is not less than the minimum metacentric height (GM) calculated in paragraph (a) of this section multiplied by sin(T). On other types of vessels, the Coast Guard Marine Safety Center requires calculations in addition to those in paragraph (a) of this section. On a